Winter 2022/2023 Outlook: Perspective for the Lower Rio Grande Valley/Deep S. Texas Region

NATIONAL WEATHER SERVICE

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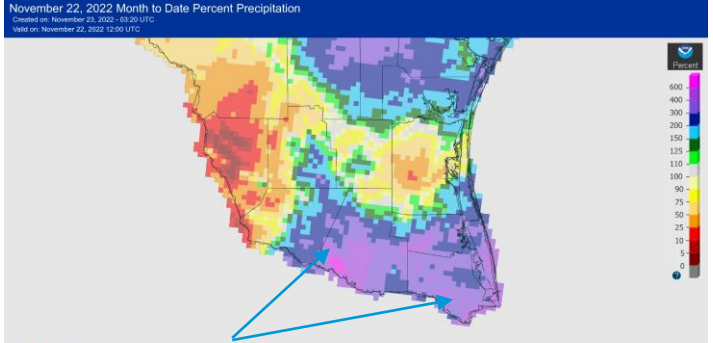
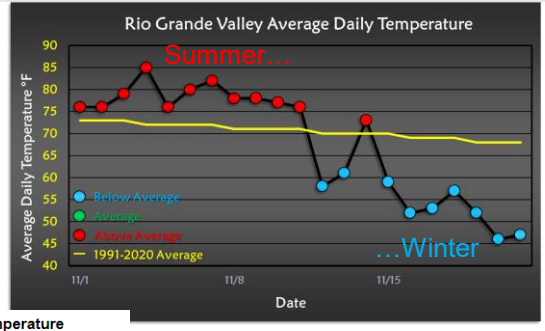
Overall Dryness to Continue; Warm Temps With A Few Cold Snaps

Since November 1st…

- A wetter than average month across the populated RGV, but drier than average across the Brush Country, Rio Grande Plains, and Brooks/Kenedy Ranches
- Temperatures shifted from much warmer than average to below average in the span of a week, as a cool to cold period began on the 12th and continued through the 21st (right)
- Despite the temperature shift, overall values remained among the top ten warmest since April 1st (bottom/right).





Maximum 233-Day Mean Avg Temperature for Brownsville Area, TX (ThreadEx)

Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	82.6	2022-11-19	0
2	82.3	2012-11-19	0
3	82.3	2019-11-19	0
4	82.1	2020-11-19	0
5	82.0	2011-11-19	0
6	82.0	2016-11-19	0
7	81.8	2018-11-19	0
8	81.8	2017-11-19	0
9	81.7	2021-11-19	0
10	81.4	2001-11-19	0

Period of record: 1878-01-01 to 2022-11-19

Maximum 233-Day Mean Avg Temperature for HARLINGEN, TX

Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	82.8	2019-11-20	32
2	82.8	2016-11-20	7
3	82.4	2022-11-20	4
4	82.1	2017-11-20	19
5	82.0	2020-11-20	18
6	81.8	2011-11-20	9
7	81.8	2012-11-20	12
8	81.7	1946-11-20	7
9	81.6	1950-11-20	0
10	81.4	1998-11-20	6

Period of record: 1912-02-07 to 2022-11-20

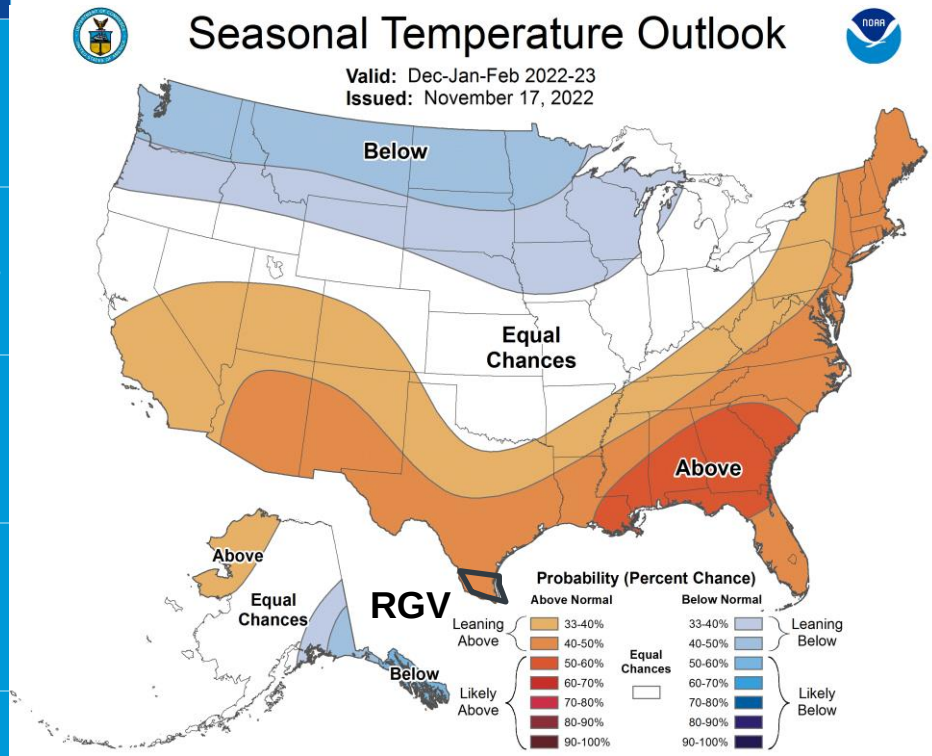
Maximum 233-Day Mean Avg Temperature for McAllen Area, TX (ThreadEx)

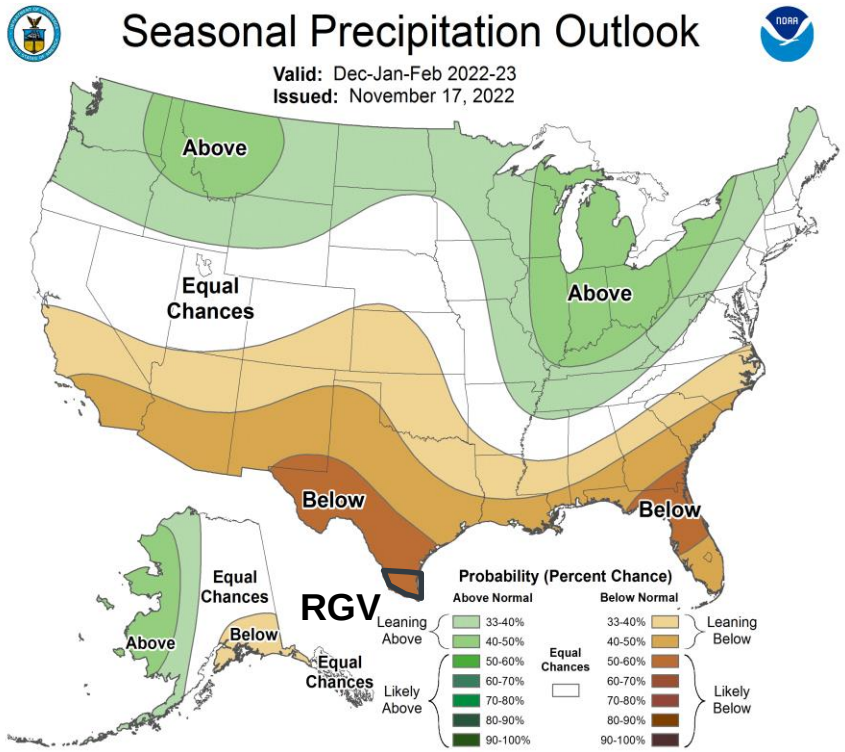
Click column heading to sort ascending, click again to sort descending.

Rank	Value	Ending Date	Missing Days
1	85.5	2016-11-19	0
2	84.9	2017-11-19	0
3	84.7	2009-11-19	0
4	84.1	2011-11-19	0
5	84.0	2015-11-19	0
6	83.9	2012-11-19	0
7	83.7	2018-11-19	3
8	83.5	2019-11-19	0
9	83.1	2022-11-19	1
10	83.0	1998-11-19	2

Period of record: 1941-06-01 to 2022-11-19

Seasonal Forecast Winter 2022/2023 - USA





Key Takeaways: Winter 2022/2023

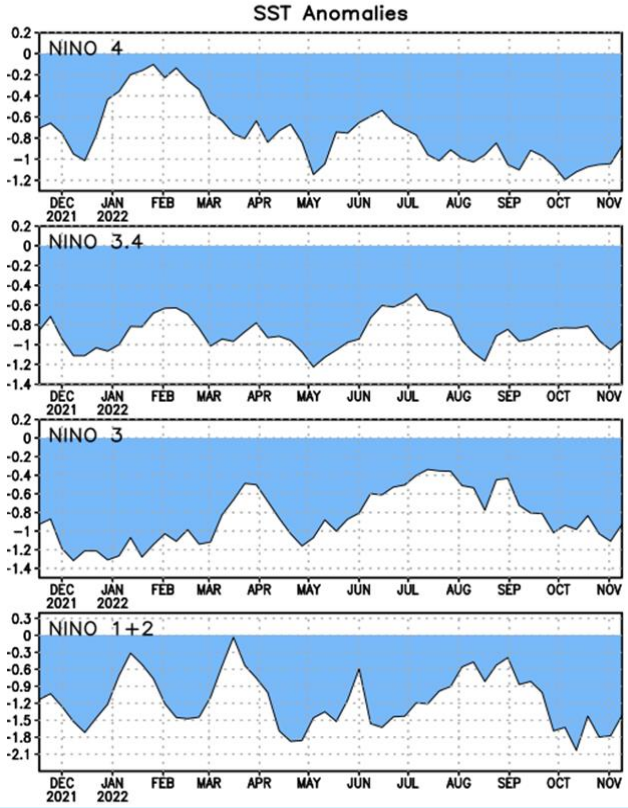
- **Above average temperatures**, and confidence for **below average rainfall continues**...
- ***Confidence is high*** on a **warm and dry end to 2022**.
- The potential for a **breakthrough freeze/extreme cold event** increases in **January and February, but could occur as early as late December**.
- Breakdown:
  - **Persistent Warmth** which began in April will continue through the end of the year. Warmth is favored for January and February, but there are wild cards.
  - While the pattern overall favors warm and dry conditions, occasional cold fronts will continue to arrive. Several **fronts could be strong, dropping "feels like" temperatures below 40°F** – with a **potential day-to-day change of up to 50°F**.
  - **Several freezes are possible in January and February, similar to 2021 and 2022**. A **hard freeze** – temperatures below 28°F for more than 2 hours – needs to be considered. **A repeat of February 2021's "Uri" needs to be in the back of the mind**.
  - Reservoir levels at Amistad leveled off and Falcon will continue a slow drop in November. Each reservoir will see a slow drop through winter. **Water supply issues will remain a concern for many Valley locations by spring 2023.**
  - The expectation of drier, but still warm, air across the Rio Grande Plains/Brush Country/King Ranch could set up **potential fire weather issues during the winter**.

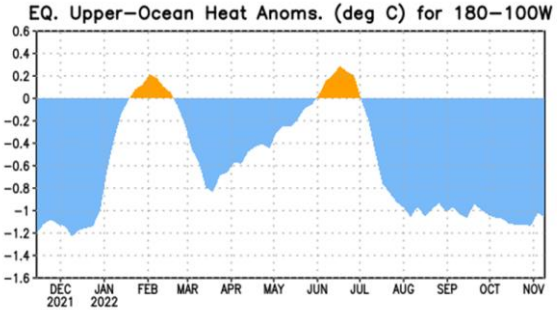
Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2021	-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4	-0.5	-0.7	-0.8	-1.0	-1.0
2022	-1.0	-0.9	-1.0	-1.1	-1.0	-0.9	-0.8	-0.9	-1.0			

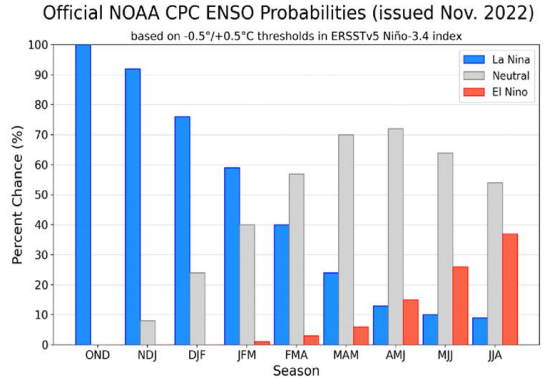
The "Why" of the Forecast: El Niño/Southern Oscillation (ENSO) solidly in La Niña Phase

- **La Niña** will remain the dominant signal into early spring 2023
- The stout La Niña combined with general atmospheric patterns and other "teleconnections" still leans toward warm and dry/drought conditions…
- …but La Niña can also support **notable cold snaps toward the end of the calendar year and especially during early 2023**

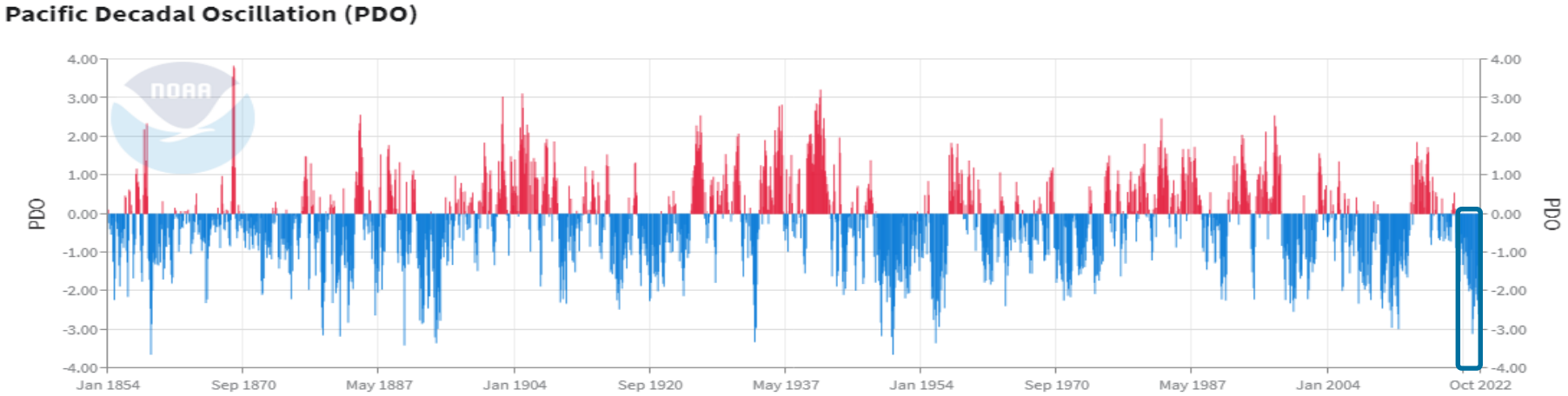
*Above right: Oceanic Niño Index. Values below -0.5 (light blue) indicate a 3-month La Niña episode. Current La Niña expected to last up to 18 months.







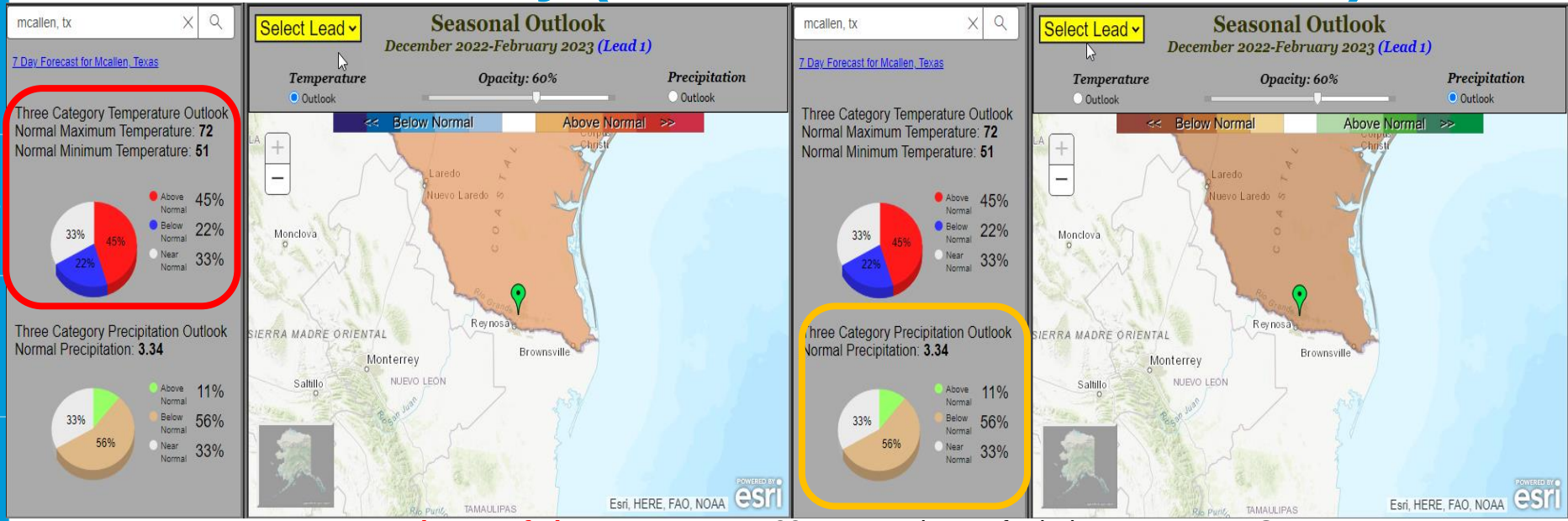
The “Why” of the Forecast: Pacific Decadal Oscillation (PDO) in Sharp Negative Phase



Source: https://www.ncei.noaa.gov/pub/data/cmb/ersst/v5/index/ersst.v5.pdo.dat

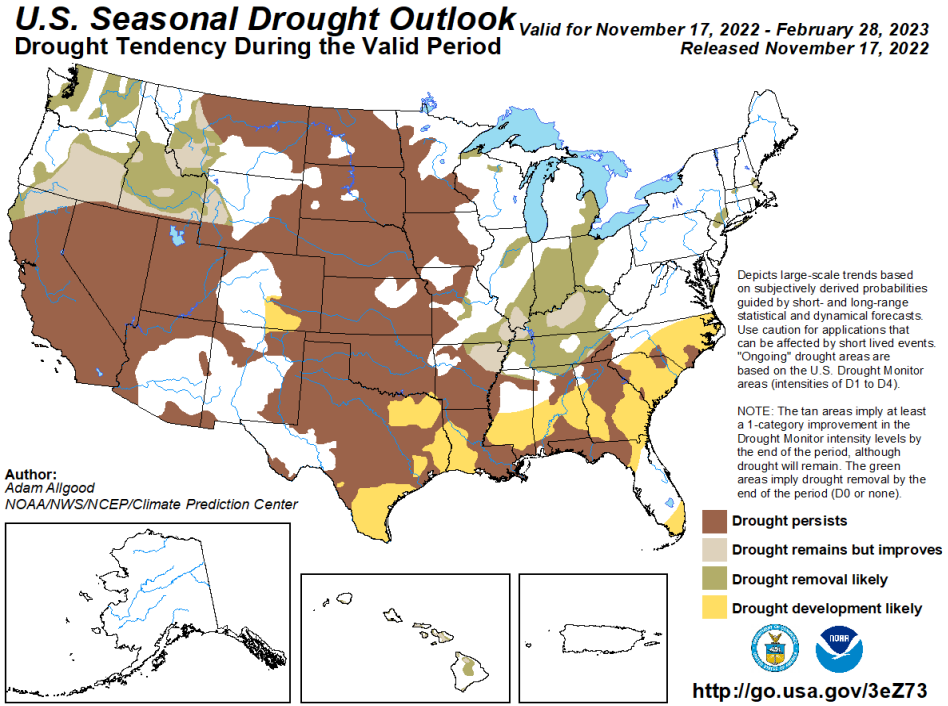
- The 2021-2022 prolonged and strong negative PDO remains similar to that of late 2010 through 2011. Combined with the persistent La Niña – also very similar to that from late 2010-2011 (though 2011 was a bit stronger), **confidence remains high on warm December.**
- The same PDO when combined with the strong and persistent La Niña, maintains confidence in a **drier than average end of 2022 and start of 2023**
- And, similar to 2011, 2021, and 2022, the potential for **sharp cold snaps and freezes** embedded within the warmer pattern **increases for the start of the calendar year** (Jan-Feb, 2023)

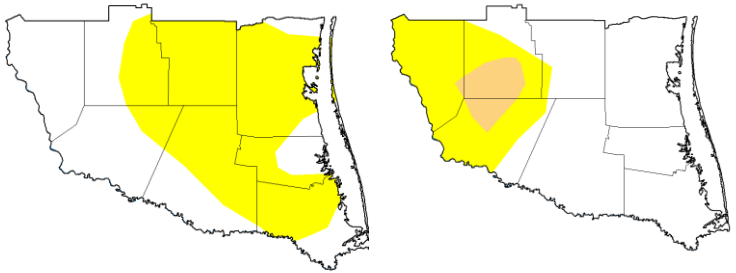
The Winter 2022/2023 Outlook:
Rio Grande Valley (McAllen as Anchor Point)



- Temperature: A **45 percent chance of above average**. A 22 percent chance for below average: RGV averages: Afternoon – Mid 70s, falling to around 70-lower 70s by the end of December through January then rising to the upper 70s by end of February. Morning: 50-55, falling to falling 47 to 52 by the end of December through the end of January, then mid to upper 50s by the end of February.
- Precipitation: **A 56 percent chance** of **below average**; 11 percent for wetter than average. RGV averages: 2.25 to 4 inches (from west to east).

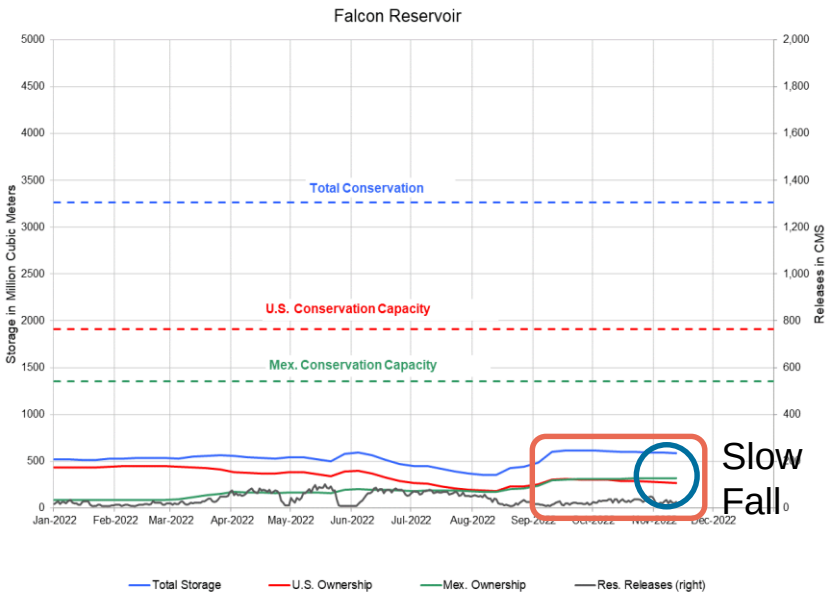
The Winter 2022/2023“Droughtlook”

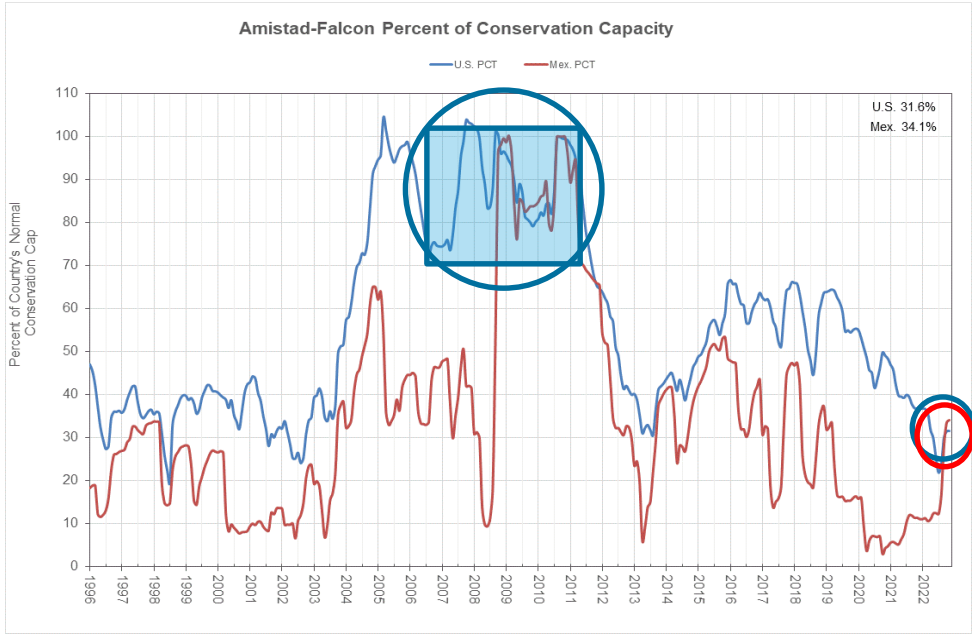




- Dryness remained steady-state in November; mid month heavy rainfall in the lower Valley would remove dryness and moisture surplus is now expected there into December.
- **Moderate to locally Severe Drought (D1 to D2)** is still expected to develop across the Brush Country and Brooks/Kenedy ranches in December. **Severe to Exceptional Drought (D2 to D3)** is possible by January or early February in these areas if dry fronts with very low humidity and warm temperatures are more common
- **Moderate to locally Severe Drought** is possible by February elsewhere, except along/east of the IH-69E/US 77 corridor.

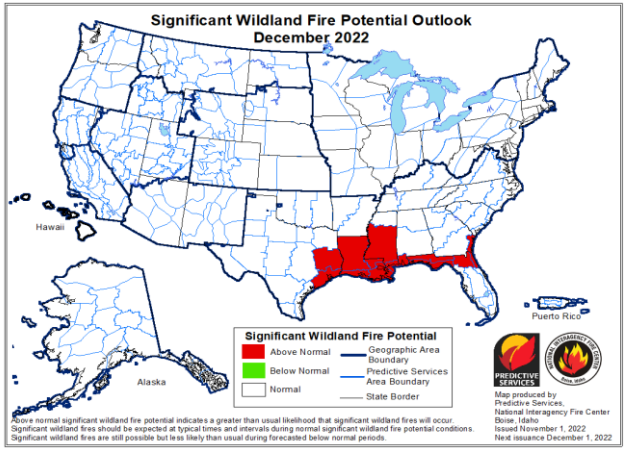
Falcon Reservoir Slowly Falling; Amistad to Do Likewise starting in December

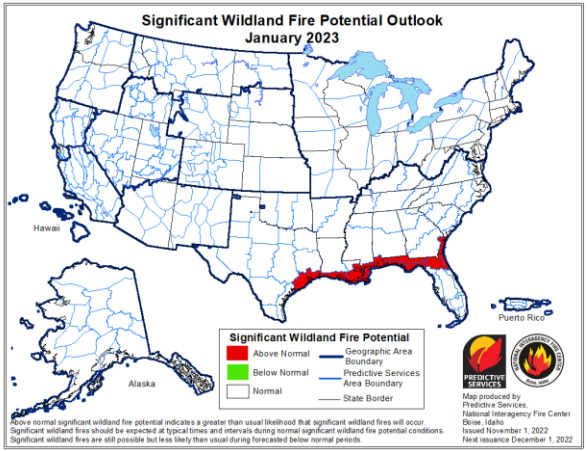


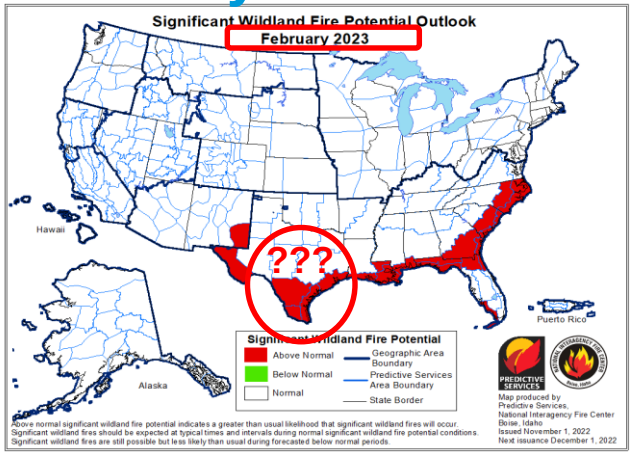


- Late November 2022 total capacity, Falcon Reservoir: **17.9 percent (down from 18.4 percent at end of October)** on Nov. 21st . Still **very low** relative to long term averages.
- Late October 2011 total capacity, Falcon Reservoir: **42 percent**

Wildfire Spread Potential Could Worsen by February 2023

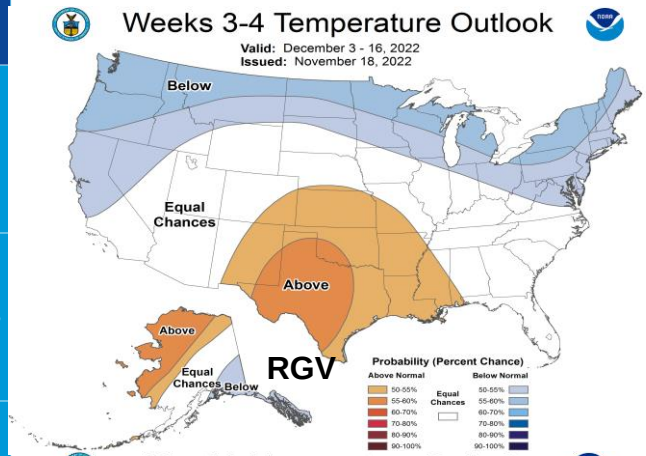


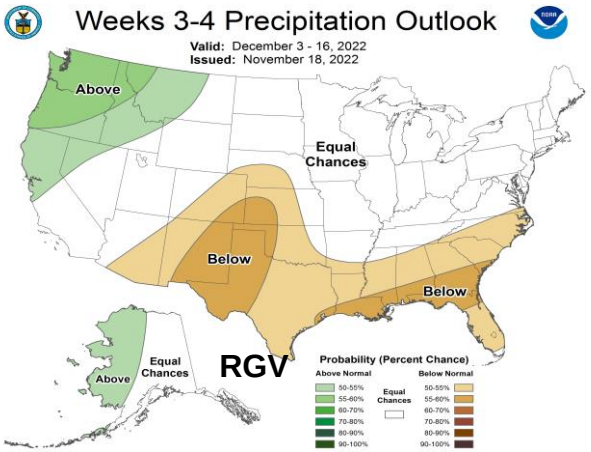


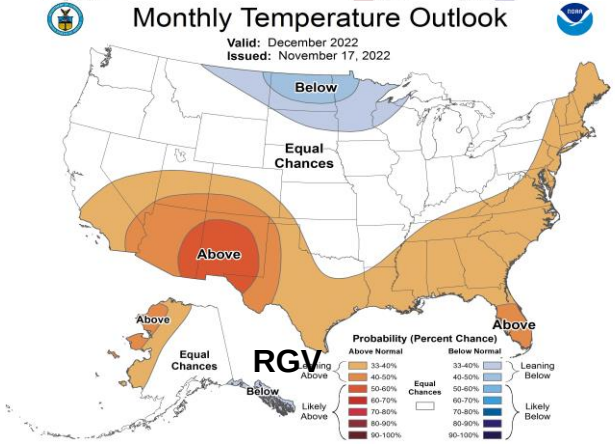


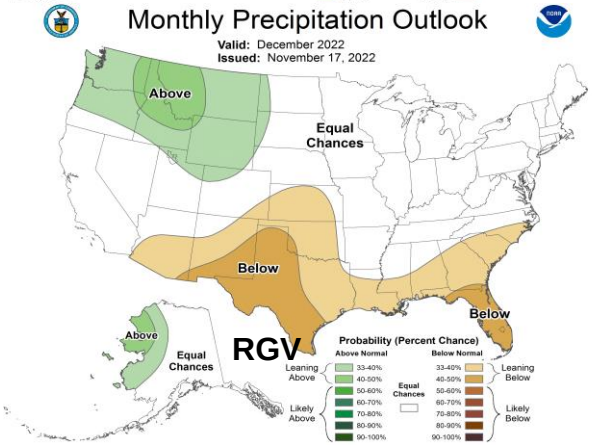
- **New growth fuels remain abundant** across the "upper" Rio Grande Valley, Rio Grande Plains, and Brush Country as of mid November.
- Rainfall was lacking in Zapata, much of Jim Hogg, Brooks, and Kenedy through mid November, but average to above average 30 to 60 day rainfall (mid September-late November) in the populated Rio Grande Valley will help keep moisture locked in for a bit longer through December and perhaps longer there.
- The expected dry December, however, may set the stage for a potentially active January and especially February, as fuels (brush and grasses) will be plentiful ("loaded")
- Those fuels are likely to **become rapidly parched**, especially if "dry" fronts surge strong northwest winds and very low humidity across high growth areas, bringing **"flash drying" and perhaps a flash drought** event in winter, especially in January/February 2023

December 2022: Confidence High on Dryness, Medium-High on Heat



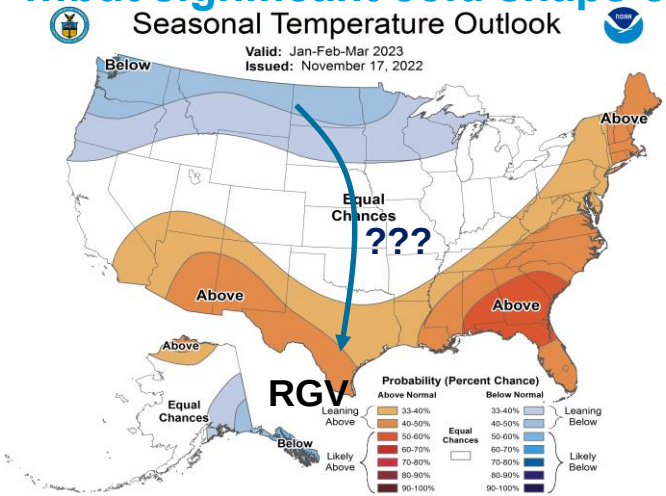


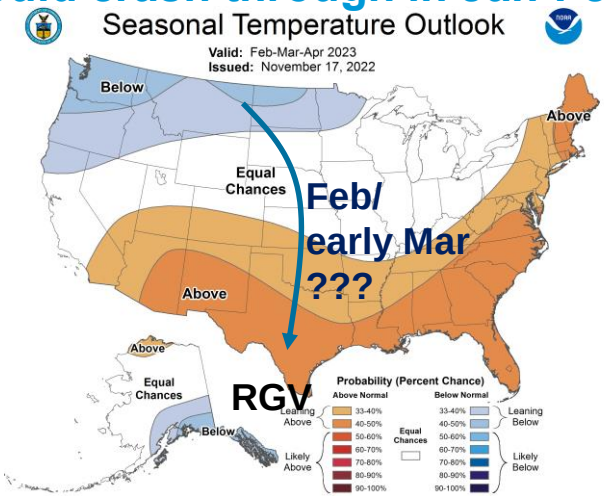


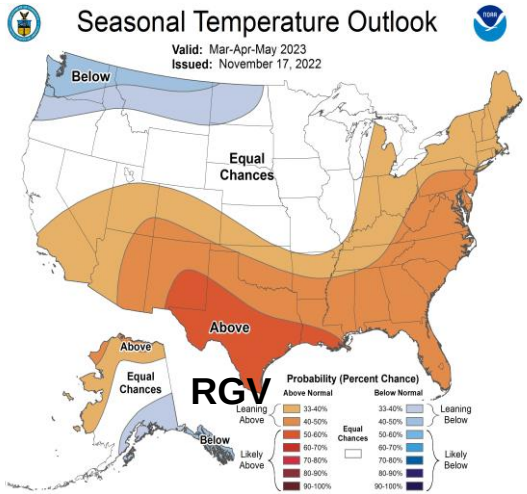


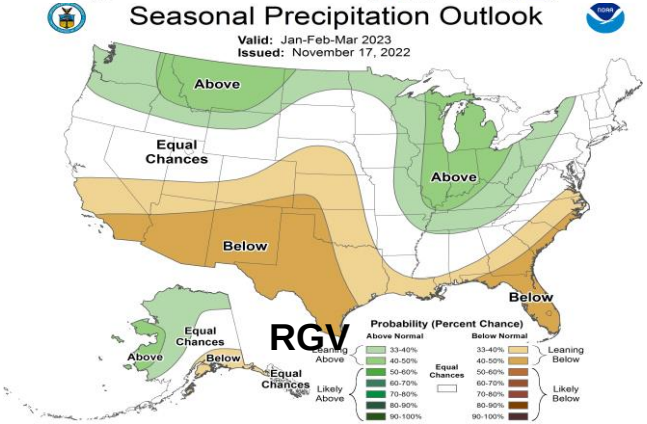
- **Bottom Line:** Through December, a return to warm and generally dry weather is expected, with occasional fronts providing scattered mainly light rain mainly toward the coast.
- **Beware the wild card**: Colder than average temperatures across the northern Plains could be a sign for a strong front to "break the dam" and send that cold air surging into the southern Great Plains, including all of Texas. Such a front in late December could bring freezing temperatures and freezing precipitation.

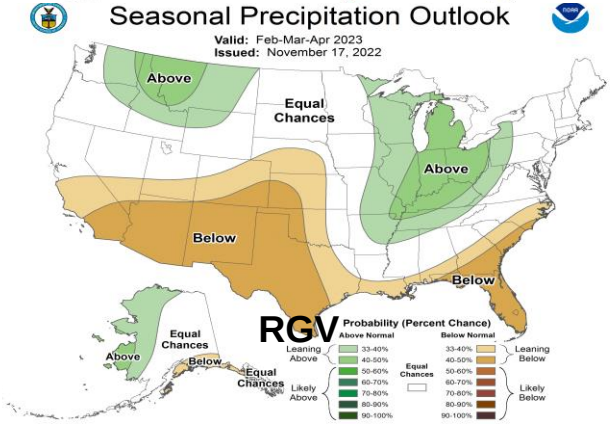
Late Winter through mid Spring 2023: Continued Warm and Dry…
…but significant cold snaps could crash through in Jan-Feb.

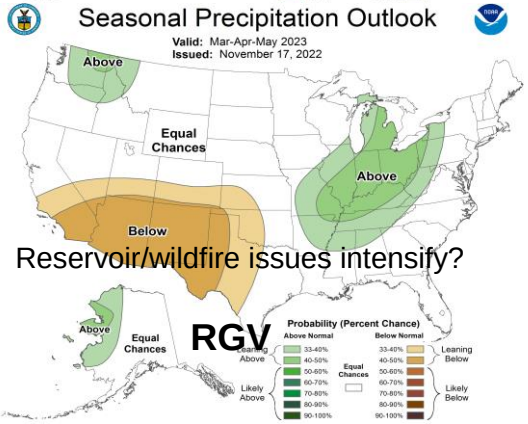












Reservoir/wildfire issues intensify?

Bottom Lines

- Water storage levels at **Falcon** will continue to **fall slowly** and **Amistad Reservoir** levels will begin to fall in December. The **combined share of water is likely to remain low to very low** headed into the early spring growing season. Water **conservation**, **smart irrigation** , **and** **rainwater harvesting** are still viable actions through winter.
- **Several freezes are possible** as early as **late December**, but more **likely in January and February** – similar to 2021 and 2022. A **hard freeze** is an increasing possibility. Utility companies, crop and livestock farmers, and transportation departments should **review their winter preparedness plans NOW** to be ready.
- Several more **strong cold fronts** – dropping "feels like" temperatures between 35 and 50 degrees – are expected through winter. A couple have already occurred in autumn. Residents should have **winter wardrobes** ready/updated and ensure **heating systems** are in proper working order.
- The growth, thickness, and density of grasses and brush in mid September through late November (in rural RGV areas) could quickly become **"tinder/duff" for rapid-spread wildfires in January or February**, based on the forecast. **Wildfire prevention activities** should continue, and resources should be readied for deployment, just in case. Conditions are likely to intensify between February and April 2023.